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<110> C. Frank Bennett
Elizabeth J. Ackermann
Eric E. Swayze
Lex M. Cowsert

<120> ANTISENSE MODULATION OF SURVIVIN EXPRESSION

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tgggcccctt agcaatgtct taggaaagga gatcaacatt ttcaaattag atgtttcaac 12184

tgtgctcctg ttttgtcttg aaagtggcac cagaggtgct tctgcctgtg cagcgggtgc 12244

tgctggtaac agtggctgct tctctctctc tctctctttt ttgggggctc atttttgctg 12304

ttttgattcc cgggcttacc aggtgagaag tgagggagga agaaggcagt gtccttttg 12364

ctagagctga cagctttgtt cgcgtgggca gagccttcca cagtgaatgt gtctggacct 12424

catgttgttg aggctgtcac agtcctgagt gtggacttgg caggtgcctg ttgaatctga 12484

gctgcaggtt ccttatctgt cacacctgtg cctcctcaga ggacagtttt tttgttgttg 12544

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cagagtccct ggctcctcta ctgtttaaca acatggcttt cttattttgt ttgaattgtt 12664

aattcacaga atagcacaaa ctacaattaa aactaagcac aaagccattc taagtcattg 12724

gggaaacggg gtgaacttca ggtggatgag gagacagaat agagtgatag gaagcgtctg 12784

gcagatactc cttttgccac tgctgtgtga ttagacaggc ccagtgagcc gcggggcaca 12844

tgctggccgc tcctccctca gaaaaaggca gtggcctaaa tcctttttaa atgacttggc 12904

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tggaggcagc agctcccgca gggctgaagt ctggcgtaag atgatggatt tgattcgccc 13084

tcctccctgt catagagctg cagggtggat tgttacagct tcgctggaaa cctctggagg 13144

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actgggtttt taaaatattg tcagtttttc atcgtcgtcc ctagcctgcc aacagccatc 13264

tgcccagaca gccgcagtga ggatgagcgt cctggcagag acgcagttgt ctctgggcgc 13324

ttgccagagc cacgaacccc agacctgttt gtatcatccg ggctccttcc gggcagaaac 13384

aactgaaaat gcacttcaga cccacttatt tatgccacat ctgagtcggc ctgagataga 13444

cttttccctc taaactggga gaatatcaca gtggtttttg ttagcagaaa atgcactcca 13504

gcctctgtac tcatctaagc tgcttatttt tgatatttgt gtcagtctgt aaatggatac 13564

ttcactttaa taactgttgc ttagtaattg gctttgtaga gaagctggaa aaaaatggtt 13624

ttgtcttcaa ctcctttgca tgccaggcgg tgatgtggat ctcggcttct gtgagcctgt 13684

gctgtgggca gggctgagct ggagccgccc ctctcagccc gcctgccacg gcctttcctt 13744
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aaaggccatc cttaaaacca gaccctcatg gctgccagca cctgaaagct tcctcgacat 13804

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aatgaggctt ctgggctatg ggtgaggttc caatggcagg ttagagcccc tcgggccaac 13984

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ctggagcccc cattgcaggc tgtcgccatg tggaaagagt aactcacaat tgccaataaa 14104

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ccctcccagg ctggagtgca gtggaatgac cacagctcac cgcaacctca aattcttgcg 14224

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ccattccatt ttcagacagc tttgtcagaa aggctgtcat atggagctga cacctgcctc 14704

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acaggaagtt gtaaggctag tacaggggat cc                                14796
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ccaagtctgg ctcgttctca gt                                         22


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<220>
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gaaggtgaag gtcggagtc   19

<210> 8
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<220>
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<210> 9
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<220>
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<210> 10
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                                                          Met Gly Ala
                                                           1


ccg gcg ctg ccc cag atc tgg cag ctg tac ctc aag aac tac cgc atc        165
Pro Ala Leu Pro Gln Ile Trp Gln Leu Tyr Leu Lys Asn Tyr Arg Ile
     5                   10                  15


gcc acc ttc aag aac tgg ccc ttc ctg gag gac tgc gcc tgc acc cca        213
Ala Thr Phe Lys Asn Trp Pro Phe Leu Glu Asp Cys Ala Cys Thr Pro
 20                  25                  30                  35


gag cga atg gcg gag gct ggc ttc atc cac tgc cct acc gag aac gag        261
Glu Arg Met Ala Glu Ala Gly Phe Ile His Cys Pro Thr Glu Asn Glu
                 40                  45                  50


cct gat ttg gcc cag tgt ttt ttc tgc ttt aag gaa ttg gaa ggc tgg        309
Pro Asp Leu Ala Gln Cys Phe Phe Cys Phe Lys Glu Leu Glu Gly Trp
                 55                  60                  65


gaa ccc gat gac aac ccg ata gag gag cat aga aag cac tcc cct ggc        357
Glu Pro Asp Asp Asn Pro Ile Glu Glu His Arg Lys His Ser Pro Gly
             70                  75                  80


tgc gcc ttc ctc act gtc aag aag cag atg gaa gaa cta acc gtc agt        405
Cys Ala Phe Leu Thr Val Lys Lys Gln Met Glu Glu Leu Thr Val Ser
 85                  90                  95


gaa ttc ttg aaa ctg gac aga cag aga gcc aag aac aaa att gca aag        453
Glu Phe Leu Lys Leu Asp Arg Gln Arg Ala Lys Asn Lys Ile Ala Lys
100                  105                 110                 115


gag acc aac aac aag caa aaa gag ttt gaa gag act gca aag act acc        501
Glu Thr Asn Asn Lys Gln Lys Glu Phe Glu Glu Thr Ala Lys Thr Thr
                 120                 125                 130


cgt cag tca att gag cag ctg gct gcc taa tgctgagcct ttgctgagat        551
Arg Gln Ser Ile Glu Gln Leu Ala Ala
                 135                 140
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aacttggacc tgagtgacat gccacatcta agccacgcat cccagctttt ccagccaggg    611

cctcctagca ggatcttaga gaaggagaca gtggtatttt gaaactggat atcaaatatt    671

tttggttttg ctttaaagtg gctacctctc tttggttttg tggctttgct ctattgtgac    731

gtggacttaa gcaataagga agtgatgaag ggacagtgtt ctctgacagg acctgtgggg    791

gtcggggtgc ctgtgcaagg tcttggttct gattgtgata tttccataca gggctgctaa    851


tgcagcccat gggtaagtgt ggttatatgt gtttgtgctg ataattttgt cctgatgagt    911

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<210> 12
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<220>
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gggagtgctt tctatgctcc tcta                                     '     24



<210> 13
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<211> 26
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<220>
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taaggaattg gaaggctggg aacccg   26

<210> 14
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<400> 14
ggcaaattca acggcacagt   20

<210> 15
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<400> 15
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<210> 16
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aaggccgaga atgggaagct tgtcatc   27

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<400> 17
gcgattcaaa tctggcgg   18

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<400> 18
cctctgccaa cgggtccc   18

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ggtcgtcatc tggctccc                                                    18


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<210> 66
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<210> 69
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<210> 70
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aaaaggagta tctgccag   18

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<220>
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<220>
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<400> 208

gctcaattga ctgacgggta   20

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<400> 209

tgctcaattg actgacgggt   20

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<400> 210

ggctcagcat taggcagcca   20

<210> 211
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<220>
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<220>
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<400> 212
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<220>
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<400> 213
ctctaagatc ctgctaggag   20

<210> 214

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accactgtct ccttctctaa   20

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atccagtttc aaaataccac   20

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<400> 218
agagaggtag ccactttaaa                                           20


<210> 219
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<220>
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accaaagaga ggtagccact                                           20


<210> 220
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gaaccaagac cttgcacagg   20

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tatcacaatc agaaccaaga   20

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<220>
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cattagcagc cctgtatgga   20

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<220>
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<210> 229
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<220>
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<210> 230
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agtaagtatt tgcttattac tattgaggcc ctaggttcaa ttcccagcaa tacaaaaata   180

ataactttcc ttttaatgat ttatcttgcc acgatggtga tgacactagc atctcaccct   240

ggacaggcaa gcctggccct ctggcnaccc cagccccttc gtgtctgttc atcattccag   300

 gca aag gag acc aac aac aag caa aaa gag ttt gaa gag act gca aag   348
 Ala Lys Glu Thr Asn Asn Lys Gln Lys Glu Phe Glu Glu Thr Ala Lys
  1   5   10   15

act acc cgt cag tca att gag cag ctg gct gcc taa tgctgagcct   394
Thr Thr Arg Gln Ser Ile Glu Gln Leu Ala Ala
            20   25

ttgctgagat aacttggacc tgagtgacat gccacatcta agccacgcat cccagctttt   454

ccagccaggg cctcctagca ggatcttaga gcaggagaca gtggtatttt gaaactggat   514

a   515

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cgtggtggct cacaccttta                                              20



<210> 234
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<400> 237
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<210> 238

<211> 20
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<220>
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<400> 238

acttactgag ctacaaactg   20

<210> 239
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<400> 240
aaagttatta tttttgtatt   20

<210> 241
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<400> 241
taaatcatta aaaggaaagt   20

<210> 242
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<210> 243
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gcctgtccag ggtgagatgc                                           20


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<400> 244
ttgcctgtcc agggtgagat                                           20


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<400> 245

gggccaggct tgcctgtcca   20

<210> 246
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<400> 246

ggtctccttt gcctggaatg   20

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<400> 247

gttggtctcc tttgcctgga   20

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<223>    a, c, g or t

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<220>
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tgtgctattc tgtgaatt                                                18
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58

10

58